Metla 1917-2014 : the history of Finnish forest research

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Metla's employees in the Vilppula experimental area, summer 1958. Photo: Reino Saarnio, Metlan kuva-arkisto, Luke and Pixabay (flag).

Both the nation of Finland and Finnish forest research celebrated their 100-year anniversaries in 2017. The forest research institute, which would become known as Metla, started off by delivering research to the traditional forest sector, but has, over the years, broadened its scope to many aspects of bioeconomy. Jaana Laine, researcher at the University of Helsinki, summarises a century of forest research in Finland.

Metla 1917-2014 – the history of Finnish forest research

Metla's history can be divided into three periods according to the main research focus and societal demand for knowledge.

During the interwar period Metla produced valuable information on national forest resources. After World War II Metla's duty was to ensure enough timber for the forest industry, which in practice directed the research on forest improvement. From the 1980s onwards Metla attempted to balance between the forest sector and environmental activism, and gradually forest research became more responsive to the ecological and cultural values. During the last decades biodiversity and bioeconomy have formed an essential part of its research programmes. From the beginning of 2015 forest researchers have been working within Luke.

Activities started in 1918

In October 1917, the Senate of the Grand Duchy of Finland passed the Law on the Finnish Forest Experimental Institute (later known as Finnish Forest Research Institute, Metla). However, the beginning of research activities was postponed until the summer 1918 due to the outbreak of civil war in January 1918. For the first years, there were only three professors undertaking research on silviculture, forest mensuration and inventory, and soil science. From this modest start, Metla developed into one of the most respected forest research institutes.

Need for knowledge and timber

After WWII, in consequence of the war indemnities and reconstruction, the pressure to intensify the use of forest resources grew. Large clear cuttings, especially in Lapland, highlighted the importance of research into silvicultural practices and the regeneration of forests.

In the late 1950s scarce forest resources seemed to limit the growth of the forest industry, and the expected shortage of timber resulted in the launch of two major national actions. First, export of round wood and household consumption were reduced to secure industry's timber procurement. Secondly, at the beginning of the 1960s nationwide forest improvement programmes were implemented. The state offered private forest owners financial support and loans e.g. for forest regeneration, fertilisation, ditching and forest roads.

During this so-called *MERA-*

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Periods of forest research: National forest inventory in the early 1950s (photo: Luke); Forest tree breeding in Ruotsinkylä research forest 1973 (photo: Veikko Koski, Luke); Climate change research in Pallastunturi, Lapland 2006 (photo: Erkki Oksanen, Luke).

period Metla's research had two aims: in the beginning, to increase timber production, and later, to evaluate the economic profitability of forest improvement. The importance of profitability grew when the oil crisis of the 1970s forced the state to consider more carefully the funding of different forest improvement activities.

Acid rain and demand for energy

Due to the oil crisis, research was focused, from the late 1970s to the mid-1980s, on wood energy production. This so-called *PERA* research programme developed the energy use of stumps and crown biomass and cultivation of energy willow; that is the wood material not needed in forest industry production.

This enthusiasm for wood energy was abruptly interrupted when new threats were literally falling from the sky, namely forest destruction caused by pollution and acid rain. At the same time Metla was challenged by environmental activism, which pushed research towards the multiple use of forests.

Conflicts and decision-making

All in all, this was the beginning of several conflicts with environmental activists but also with forest industries and private forest owners. Private forest organisations expected Metla to offer unambiguous research results on silvicultural issues which could be formulated into guidance for private forest owners. Both forest industries and the state administrative organisations demanded current information on forest resources.

Interest groups stressed the need for quick answers to research problems, but they partly ignored the natural tempo of forest research. Biological research takes time, particularly in forests with nearly hundred-year long rotations.

Policy-oriented applied research gained more ground within Metla from the 1990s onwards and the Ministry of Agriculture and Forestry expected research results to support political decision-making. These demands grew partly as a result of membership of the European Union, but also due to ongoing globalisation and the increasing number of international commitments.

Towards bioeconomy

Biodiversity and bioeconomy shifted Metla towards interdisciplinary research. This is apparent, for example, in the National Forest Inventories, for which more and more ecological information has been gathered. For investigating global warming, researchers have benefited from the long history of Metla; for instance, experimental plots established from the 1920s onwards and forest litter samples collected from the 1950s have offered valuable information about environmental changes.

Nowadays, forest researchers face more complex issues which require broad environmental and socio-economic knowledge and co-operation with other disciplines and research organisations. From the beginning of 2015, Luke (Natural Resources Institute Finland) has offered forest researchers an inspiring and multidisciplinary working environment.

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